

**REMARKS**

Claims 1-14 are pending in this application. Claim 15 has been added.

The Office Action dated December 24, 2003, has been received and carefully reviewed. Each of the issues raised in that Office Action is addressed below.

Claim 13 stands rejected under 35 U.S.C. 112, second paragraph as being indefinite. Claim 13 requires an intrinsically safe portable device configured to operate on enclosed electronic process control devices without keypads and control panels. The Office Action concludes that "a control panel may be broadly considered to be any control/input/output mechanism such as a single switch," and that therefore electronic process control equipment without keypads or control panels can not receive inputs or outputs in order to function or interface with other equipment.

Applicant respectfully disagrees with this interpretation. As shown by the enclosed dictionary definition, a control panel comprises a "panel," namely a "mount for controls or dials," (Merriam Webster Online ([www.m-w.com](http://www.m-w.com))) and the controls or dials mounted thereon. The enclosed definition of "control panel" from [www.infoplease.com](http://www.infoplease.com) shows that this phrase generally refers to manual controls. The definition of "control panel" is not broad enough to cover a single switch as posited by the examiner, nor would this

term describe, for example, an antenna for receiving a control signal. Therefore the limitation in claim 13 does not exclude all control mechanisms, but merely keypads and control panels as stated in the claim. For this reason, the rejection of claim 13 is respectfully traversed and it is submitted that claim 13 is sufficiently definite as written.

Claim 1 stands rejected under 35 U.S.C. 102(b) as being unpatentable over Crowne. Crowne discloses a fluid level measurement system that can be interrogated by a remote unit 34. Crowne does not, however, disclose a portable device for configuring the operation of a time of flight ranging system as required by claim 1. Nothing in the Crowne reference suggests that Crowne's fluid measurement system can be configured or programmed using remote unit 34, and claim 1 is submitted to distinguish over Crowne for this reason.

Furthermore, the Office Action acknowledges that Crowne does not teach an electronic circuit including a low voltage power supply as required by claim 1. However, it is asserted that it would have been obvious to provide Crowne with a low voltage power supply. Applicant respectfully disagrees with this analysis.

Crowne is directed to the remote measurement of fuel levels in aircraft. Crowne describes the need to reduce the danger inherent in providing a sensor electronic control circuit within a fuel tank. Therefore, at column 5, lines 2-7, Crowne explains that the control

circuit receives its electromagnetic energy from the remote control handheld unit and that it converts this energy into electrical power for the control circuit. Thus, onboard electrical power is not connected directly to the fuel tank. The control circuit relies upon the handheld unit to transmit sufficient electromagnetic energy to charge a storage capacitor, which is then used to power the sensor control circuit.

Crowne does not suggest that power consumed by the handheld device should be minimized. Instead, Crowne seeks to ensure that the sensor onboard the aircraft receives all its electromagnetic power from the hand-held portable device. Accordingly, one of ordinary skill in the art would be led to provide the portable handheld device with a high voltage power supply in order to facilitate rapid charging of the storage capacitor. Crowne therefore teaches away from providing a handheld device with a low voltage power supply which would render his device less useful for its intended purpose if not inoperable. For this reason, it is respectfully submitted that it would not be obvious to provide Crowne with a low voltage power source and that claim 1 patentably distinguishes over this reference.

Claims 2-5 depend from claim 1 and are therefore allowable for the same reasons as claim 1.

Independent claim 6 also stands rejected under 35 U.S.C. 103(a) as being unpatentable over Crowne. Claim 6 requires a time of

flight ranging system that includes a time of flight ranging device having configurable parameters and a wireless transmitter for transmitting control signals to a wireless receiver on the time of flight ranging device for controlling the configurable parameters. Crowne in no manner shows or suggests the control of configurable parameters on a time of flight ranging device by a wireless transmitter. For this reason, it is submitted that claim 6 patentably distinguishes over Crowne.

Furthermore, claim 6 requires an electronic circuit mounted in said enclosure, said electronic circuit including a low voltage power supply and a low power microcontroller for operating at a low voltage level to eliminate the incidence of sparking. As discussed above in connection with claim 1, Crowne does not disclose a low voltage power supply. Moreover, one skilled in the relevant art would not be motivated to provide the Crowne device with a low voltage power supply because the Crowne power supply is used to charge a storage capacitor for powering the onboard sensor. For these reasons, it is respectfully submitted that claim 6 distinguishes over the prior art.

Claims 7-14 depend from claim 6 and are submitted to be allowable for the same reasons as claim 6.

Claims 2 and 7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Crowne in view of Deserno and Pennisi.

Claims 2 and 7 require that an electronic circuit mounted in an enclosure be encased in an epoxy inside of said enclosure, the epoxy providing a barrier against sparking in the electronic circuitry. It is stated in the Office Action that Pennisi teaches the use of epoxy to cover electronic circuits to mitigate physical and electrical degradation to the circuits. Pennisi does not suggest the use of an epoxy barrier to prevent sparking as required by claims 2 and 7. Neither Crowne nor Deserno shows or suggests the use of epoxy providing a barrier against sparking in the electronic circuitry as required by claims 2 and 7. Pennisi does not address this shortcoming. Claims 2 and 7 are therefore respectfully submitted to patentably distinguish over Pennisi.

Claims 3 and 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Crowne in view of Deserno and Pennisi and Nakano. Claims 3 and 8 require an enclosure formed from general polymers polystyrene having a maximum surface resistivity of  $5,000E+3$  Ohms. The cited prior art does not disclose polystyrene having any particular surface resistivity. To address this deficiency, the Office Action cites *In re Aller*, 105 U.S.P.Q. 233 (CCPA 1955), for the proposition that "where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art." It is respectfully submitted that the *Aller* case does not apply to the present situation. In *Aller*, a claimed chemical process was to be

carried out using 25 to 70 percent sulphuric acid at a temperature of 40 to 80 degrees. The prior art reference disclosed the same process, but using a 10 percent sulphuric acid concentration at a temperature of 100 degrees. Under these circumstances, the court found that the inventors had merely discovered optimal ranges for a previously known reaction.

*Aller* is inapplicable to the present facts. The prior art discloses no range or values of polystyrene resistivity for the applicants to optimise. The prior art give no indication that the surface resistivity of polystyrene is a variable that can or should be adjusted. Because Nakano does not disclose the use of polystyrene having the claimed maximum surface resistivity and Nakano does not suggest any particular range of surface resistivities that the applicants could modify or optimise as in the *Aller* case, it is respectfully submitted that the *Aller* case is distinguishable on its facts and that claims 4 and 8 further define over the cited references.

Claims 5 and 10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Crowne in view of Deserno and Leon. Claims 5 and 10 depend from claims 1 and 6 respectively, which claims are submitted to be allowable for the reasons provided above. For this reason, it is submitted that claims 5 and 10 are allowable as well.

Claim 13 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Crowne in view of Deserno and Woodward. Claim 13

depends from claim 6 and is therefore submitted to be allowable for the same reasons as claim 6 provided above.

Newly added claim 15 requires an intrinsically safe portable device for configuring the operation of a level measurement system, the level measurement system having a wireless communication receiver, the device including an enclosure and an electronic circuit mounted in the enclosure, the electronic circuit including a low voltage power supply and a low power microcontroller for operating at a low voltage level to eliminate the incidence of sparking. Thus claim 15 requires a device for configuring the operation of a level measurement system. Crowne, cited against claim 1, discloses a device for interrogating a level measurement system but does not show or suggest a device for configuring the operation of a level measurement system as required by claim 15. Moreover, claim 15 requires an electronic circuit including a low voltage power supply and low power microcontroller for operating at a low voltage. As discussed above in connection with claims 1 and 6, the prior art does not show or suggest the use of such a low voltage power supply, and the Crowne reference teaches against the use of such a power supply. For these reasons, it is respectfully submitted that claim 15 also defines over the prior art.

Each issue raised in the Office Action dated December 24, 2003, has been addressed, and it is believed that claims 1-15 are now in

condition for allowance. Wherefore reconsideration and allowance of these claims is earnestly solicited.

Conclusion

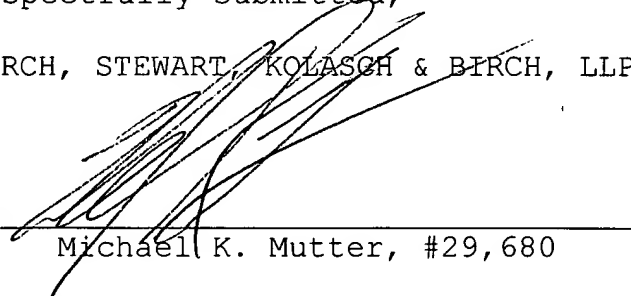
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Scott Wakeman (Reg. No. 37,750) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By

  
Michael K. Mutter, #29,680

P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000

<sup>W</sup>  
MKM/STW/ph

2339-120P

(Rev. 02/12/2004)